**Project Name:** Roseville Armory Rehabilitation

**Recipient:** City of Newark

**Address:** 920 Broad Street, Newark, NJ 07102

**Amount Requested:** $750,000

**Project Description:** The funding would be used to work with the National Guard and the State of New Jersey to expand and renovate the historic Roseville Armory to improve and expand its current facilities for training, classroom and meeting room space.

The renovated armory will serve as a model for future projects within the state.

**Value to Taxpayer:** Roseville Armory is a National Guard facility in Newark that also offers recreational facilities to the community. Consistent with the conversions of Armories in Harlem and Washington Heights of New York City, the City will renovate the Armory to create a recreation facility and community center providing sports, after-school and worker training programs for kids and families. After the renovation is complete, the City will work with federal and state agencies to develop training programs. This project addresses the urgent need of the community to provide safe after school opportunities for kids and also to provide resources and programs for skill development and job training.

**Project Name:** Conversion of Municipal Solid Waste (MSW) to Renewable Diesel

**Recipient:** Covanta Energy

**Address:** 40 Lane Rd. Fairfield, NJ 07004

**Amount Requested:** $3,150,000

**Project Description:** This program would provide an assessment of commercially-available technologies and examine existing best practices for using MSW, and potentially other feedstocks, to create renewable diesel. It would also research and test catalytic and non-catalytic systems to convert organic materials into renewable diesel that meets stringent Environmental Protection Agency requirements for low sulfur content, resulting in a cleaner burning fuel and added environmental benefits.

**Value to Taxpayer:** MSW - common household trash - is in use today as a fuel at 87 facilities in the U.S., providing electricity to communities, while disposing of more than 10 percent of the domestic MSW. A typical military installation of 50,000 personnel generates 100 tons of trash per day, which could be converted to 6,000 gallons of diesel each day. The Department of Defense savings would be greater than $200,000 per year on fuel alone at each base that is similarly sized. Additional savings would be realized as the cost of disposing of MSW is mitigated, and landfill space on- and off-base is freed up for more productive applications.

**Project Name:** An Adaptive Civil Support Radio

**Recipient:** Drakontas LLC

**Address:** 200 Federal Street, Suite 300, Camden NJ 08103

**Amount Requested:** $4,400,000

**Project Description:** When statewide emergencies take place, the most critical initial challenge is the rapid redeployment of communications networks and radios.

Radios generally require the manual reconfiguration of each individual radio, as they are moved to new frequency channels depending on the specific requirements of the location to which they are deployed.

Funding for this project will go toward the further development of software that would allow the radio to locate itself via Global Positioning Satellite (GPS), reconfigure itself to access the specific frequencies, and attach itself to open channels so as to facilitate communication between the user and the local law enforcement office.

**Value to Taxpayer:** This project would create an improved and more responsive civil support for the law enforcement and emergency response community. It would create a new model supporting the rapid introduction of new technology into the National Guard, civil support and first responder community.

The project also demonstrates that military research and development for the warfighter can be successfully transferred to first responders.

**Project Name:** Face in a Crowd

**Recipient:** L-1 Identity Solutions

**Address:** 10 Exchange Place, Jersey City NJ

**Amount Requested:** $3,000,000

**Project Description:** The proposed research is intended to provide the military with the ability to improve surveillance collection and analyze surveillance information to enable identification of a "Face in a Crowd" using face recognition (FR) This requires FR at increased performance levels than are available today for relaxed-constraints of angles, lighting, indoors/outdoors and at a distance.

**Value to Taxpayer:** This program will create high-tech jobs in Hudson County, while serving to improve the technology which will ultimately help in the security of United States interests. Biometrics have played an important role in the Global War on Terror. Iris and fingerprint recognition from L-1 is used to enroll 5000 individuals a week in areas of conflict; this program results in the capture of one high value target per day. However, all the current techniques require a "man in the loop" and put warfighters in harms way. "Face in a Crowd" would serve to automate the process of screening.

**Project Name:** Phase 1 of Berth N-2 Reconstruction

**Recipient:** Bayonne Local Redevelopment Authority

**Address:** 51 Port Terminal Boulevard, Suite 21, Bayonne NJ 07002

**Amount Requested:** $7,103,000

**Project Description:** The project would construct/stabilize 1,380 linear feet of decaying bulkhead and eroding shoreline of the N-2 berth area of former MOTBY in the first phase of Berth N-2 reconstruction. The reconstructed Berth N-2 at former MOTBY, combined with recently-completed extension of Berth N-1 platform, would provide over 2,600 linear feet of functional berthing capacity on the Bayonne side of the Port Jersey Channel (PJC) for large military ships and other federal vessels in the event of national defense emergency.

**Value to Taxpayer:** The project supports the $200-million Federal Harbor Deepening project at PJC by installing foundation infrastructure to double berthing capacity on the Bayonne side of

PJC,

thereby optimizing return on federal investment in the PJC project.

Berth N-2 reconstruction would generate 1,750 maritime-related jobs and $150-million annually for the regional economy, and would provide strategic port facilities for military/federal vessels in event of national emergency.

**Project Name:** Advanced Therapies for Battlefield Trauma

**Recipient:** Pharming Healthcare, Inc.

**Address:** 2500 Harborside Financial Center, Plaza 5; Jersey City, NJ 07311

**Amount Requested:** $2,792,000

**Project Description:** *The funding would be used* to develop technologies that address bleedi ng, as it is the number one cause of preventable death on the battlefield.

The technologies in the present application would help provide means to improve the survivability of our wounded service men and women.

**Value to Taxpayer:** This project would contribute to development of treatments to save lives and greatly reduce the number deaths from bleeding. Bleeding is the leading cause of preventable death in combat. Even when the bleeding can be stopped, patients often die from organ damage caused by bleeding. This technology addresses the two key aspects of this serious problem:

1) Stop life-threatening bleeding and 2) Minimize the consequences of bleeding.

These advanced technologies also have great potential to save lives in the treatment of civilian trauma.

**Project Name:** Security for Critical Communication Networks (SCCN)

**Recipient:** Stevens Institute of Technology

**Address:** Castle Point on Hudson; Hoboken, NJ 07030

**Amount Requested:** $8,000,000

**Project Description:** The proposed program would address the affordability of Secure Critical Communication Networks for national security and humanitarian operations

in four focus areas:

systems security, computational intelligence, optical communications, and radio systems
.

**Value to Taxpayer:** SCCN FY10 addresses the problem of affordable security for critical U.S. national and coalition military networks, leveraging the unique strengths of Stevens Institute of Technology while enhancing competence in government by expanding the technical skills of the Government's premier technical workforce - the National Security Agency - collaborating with Stevens. This program would bolster basic and applied research in secure wireless including network, radio, and optical communications with rapid prototyping of affordable, deployable prototype solutions that the U.S. could use both inside and outside our borders.

**Project Name:** Persistent Unmanned Underwater Operations

**Recipient:** Stevens Institute of Technology

**Address:** Castle Point on Hudson; Hoboken, NJ 07030

**Amount Requested:** $5,000,000

**Project Description:** The Persistent Unmanned Underwater Operations system would be the world's first fully autonomous Unmanned Underwater Vehicle designed for continuous, long-term operation in littoral and estuarine environments. The effort would leverage the internationally-recognized ocean engineering, wireless communications, and maritime security expertise at Stevens, as well as the partnerships and facilities of the recently-inaugurated DHS National Center of Excellence in Port Security, headquartered at Stevens.

**Value to Taxpayer:** The funding would be used to produce technologies, algorithms, and procedures that would benefit the Department of Defense and domestic security applications that will allow autonomous operations in denied or domestic complex environments such as estuaries and littoral waters.

**Project Name:** Renewable Energy Systems (RES) for Defense Application

**Recipient:** Stevens Institute of Technology

**Address:** Castle Point on Hudson; Hoboken, NJ 07030

**Amount Requested:** $5,000,000

**Project Description:** *The funding would be used to* develop and demonstrate an integrated chemical process, enabled by the adoption of microreactor technology and distributed production approach, for converting waste biomass to liquid fuel. The program envisioned is an integrated skid-mounted mobile processing platform that would convert waste biomass to transportation or heating fuel anywhere around the world on an on-demand basis.

**Value to Taxpayer:** This technology would enable the Department of Defense (DoD) to be in compliance with various federal mandates which require DoD to reduce consumption of fossil fuel and increase the use of renewable and alternative fuel. It would also meet one of the key goals of the "security task force mission," which include the domestic production and integration of alternative fuels into DoD. The impact of this work would be far reaching, not only for the U.S. military but also for the future of the U.S. energy industry because of its dual-use nature. The reliance on foreign oil would be significantly diminished with other long-term societal benefits, such as trade deficit reduction, cleaner air, and reduction of emission of global warming gases.

**Project Name:** Armament System Engineering and Integration Initiative (ASEI2)

**Recipient:** Stevens Institute of Technology

**Address:** Castle Point on Hudson; Hoboken, NJ 07030

**Amount Requested:** $5,000,000

**Project Description:** The funding would be used to work on the development and implementation of new methods and practices in systems architecting; system engineering methodologies and tools; systems integration; and development of research expertise in systems engineering and architecting. Since FY04, the Stevens Institute of Technology has been working collaboratively with the United States Army on methodologies, tool, and competency development in system architecting, design, analysis, and research of systems engineering.

**Value to Taxpayer:** There is a critical need for the U.S. Army to be more agile in the development, testing, evaluation and fielding of complex armament systems, while keeping cost and time until deployment to a minimum. This program provides the US Army with the tools and methods to accomplish that and be successful in their mission.

This is particularly important during wartime where requirements, systems architectures, adaptability and supportability change rapidly with changing battlefield conditions.

**Project Name:** Rapid Insertion of Development Technologies (RID-Tech)

**Recipient:** Stevens Institute of Technology

**Address:** Castle Point on Hudson; Hoboken, NJ 07030

**Amount Requested:** $4,000,000 million

**Project Description:** *The funding would be used for the* rapid maturation of systems that enhance lethality and survivability, and situational awareness for the soldier from concept to reliable deployment state. The following projects are proposed as part of the FY09 R&D: Intelligent Remote Robotic Weapon Systems; Micro/Nano-Electro-Mechanical Systems (MEMS/NEMS) for Defense Applications; Manufacturing Sciences Modeling & Simulation; and Microchemical Platforms for Nanoenergetic Materials and Critical Defense Chemicals Production.

**Value to Taxpayer:** This program would continue benefiting the Army by enhancing its ability to accelerate the fielding of new systems and technology that are crucial to the success of ongoing military operations. Such systems increase the protection and survivability of the warfighter, as well as enhancing his/her effectiveness in the field.

**Project Name:** Green Armament and RangeSafe (GAT/RS) Technologies

**Recipient:** Stevens Institute of Technology

**Address:** Castle Point on Hudson; Hoboken, NJ 07030

**Amount Requested:** $4,000,000

**Project Description:** *The funding would be used* to develop innovative and cost effective

technologies to minimize the impact of Department of Defense operations on the environment.

Continuing research efforts under the GAT/Rangesafe program would focus on green chemistry.

**Value to Taxpayer:** The Rangesafe and GAT programs were established to assist the Army in achieving the highest possible degree of readiness in a cost effective and environmentally responsible and sustainable manner. This program allows the Army to maintain its training, test and production facilities at the top operational level; enabling their continued use to ensure war fighting readiness.

Developers, testers and soldiers would all benefit from a suite of knowledge-based information and management tools that would assure more responsible designs, and accurately forecast the life cycle effects of materials and processes.

**Project Name:** The Cancer Initiative

**Recipient:** University of Medicine and Dentistry of New Jersey (UMDNJ) - Robert Wood Johnson Medical School

**Address:** 195 Little Albany Street, New Brunswick, New Jersey 08903-2681

**Amount Requested:** $11,831,112

**Project Description:** The proposed initiatives are *The Dean and Betty Gallo Prostate Cancer Center* , which would seek to eradicate prostate cancer; *the Center for Imaging, Structures and Function*

, which would provide state of the art image analysis crucial to cancer research;
*a Center for Cancer Bioinformatics*
, a joint initiative between CINJ and the Institute for Advanced Studies in Princeton, that combines the power of theoretical biology, computer science, mathematics and physics with cancer research expertise;
*the LIFE Center*
, which coordinates efforts in the eradication of breast cancer.

**Value to Taxpayer:** The Project addresses cancer incidence and death rates through diagnosis, prevention and treatment, including escalating prostate cancer rates among men, a key priority for civilian and military health systems